

CLAIMS

What is claimed is:

1. A method for creating a file information database comprising:
scanning a storage server having a directory structure;
collecting data regarding the directory structure;
assigning an identification (ID) number to a directory in the directory structure
according to a depth first search (DFS) order; and
writing a data structure including the ID number.
2. The method of claim 1, wherein scanning and collecting comprise scanning and collecting by using an agent separate from the storage server.
3. The method of claim 2, wherein the agent has a first file system, and the storage server has a second file system, and wherein the first file system is different from the second file system.
4. The method of claim 1, wherein writing a data structure comprises:
writing a first subset of the data structure including the ID number of the directory; and
writing a second subset of the data structure including a second ID number of a parent of the directory.

5. The method of claim 1, wherein assigning further comprises assigning the ID numbers while collecting the data.
6. The method of claim 1, wherein writing the data structure further comprises writing the data structure to a database server.
7. The method of claim 4, further comprising:
receiving a request to determine the parent of the directory; and
referencing the second column of the data structure to determine the parent.
8. The method of claim 4, further comprising:
receiving a request to determine an immediate child of the directory;
searching the second subset of the data structure to find a third subset including the ID number of the directory; and
determining the immediate child by referencing the first column and the third subset.
9. The method of claim 4, further comprising:
receiving a request to determine a set of ID numbers of every child of the directory;
determining a second ID number of a sibling of the directory; and
determining the set of ID numbers is between the ID number of the directory and the second ID number.

10. A machine readable medium having stored thereon executable program code which, when executed, causes a machine to perform a method for creating a file information database comprising, the method comprising:

scanning a storage server having a directory structure;

collecting data regarding the directory structure;

assigning an identification (ID) number to a directory in the directory structure

according to a depth first search (DFS) order; and

writing a data structure including the ID number.

11. The machine readable medium of claim 10, wherein scanning and collecting comprise scanning and collecting using an agent separate from the storage server.

12. The machine readable medium of claim 11, wherein the agent has a first file system, and the storage server has a second file system, and wherein the first file system is different from the second file system.

13. The machine readable medium of claim 10, wherein writing a data structure comprises:

writing a first subset of the data structure including the ID number of the directory; and

writing a second subset of the data structure including a second ID number of a parent of the directory.

14. The machine readable medium of claim 10, wherein assigning further comprises assigning the ID numbers while collecting the data.

15. The machine readable medium of claim 10, wherein writing the data structure further comprises writing the data structure to a database server.

16. The machine readable medium of claim 13, further comprising:
receiving a request to determine the parent of the directory;
referencing the second subset of the data structure to determine the parent.

17. The machine readable medium of claim 13, further comprising:
receiving a request to determine an immediate child of the directory;
searching the second subset of the data structure to find a third subset including the ID number of the directory; and
determining the immediate child by referencing the first subset and the third subset.

18. The machine readable medium of claim 13, further comprising:
receiving a request to determine a set of ID numbers of every child of the directory;
determining a second ID number of a sibling of the directory; and

determining the set of ID numbers is between the ID number of the directory and the second ID number.

19. An apparatus comprising:

a server having a mass storage device;

an agent coupled to the server, the agent to collect information regarding directories stored on the mass storage device and to assign identification (ID) numbers in a DFS manner to the directories; and

a database server coupled to the server and the agent to store the information.

20. The apparatus of claim 19, wherein the server is a file server.

21. The apparatus of claim 19, wherein the server and the agent use different file systems.

22. The apparatus of claim 21, wherein the server uses one of a common internet file system (CIFS) and a network file system (NFS) and wherein the agent uses the other of the CIFS and the NFS.

23. The apparatus of claim 19, wherein the information is stored in a data structure.

24. The apparatus of claim 23, wherein the data structure includes columns to store the ID numbers of the directories, the ID numbers of parents of the directories, a size of the directories, a creation time of the directories, and a name of the directories.
25. An apparatus comprising:
- a multi-appliance management application (MMA) to manage a storage server;
 - and
 - an agent coupled to the MMA, the storage server, and a database server, the agent to scan to the storage server and collect data regarding files on the storage server, and while scanning the storage server, the agent to assign ID numbers to nodes on the file server in a depth first search (DFS) order.
26. The apparatus of claim 25, wherein the agent writes the ID numbers to a table stored on the database server.
27. The apparatus of claim 25, wherein the agent may have a first file system different from a second file system of the storage server.
28. A method for creating a logical tree comprising:
- examining a first directory from a top of a directory queue, and determining a set of children of the directory;
 - assigning an ID to the first directory;

examining the set of children and determining a first subset of files and a second subset of directories; and

placing the second subset on the top of the directory queue.

29. The method of claim 28, wherein the ID is a depth first search (DFS) ID.

30. The method of claim 28, further comprising placing the first subset of files in a file queue.

31. The method of claim 30, further comprising:

a directory walking thread examining the directory queue; and

a file thread examining the file queue.

32. The method of claim 31, wherein examining the file queue further comprises recording an information about a first file taken from the file queue.

33. A method for creating a file information database comprising:

scanning a storage server having a directory structure;

collecting data regarding the directory structure and regarding files stored on the storage server using an agent;

assigning an identification (ID) number to a directory in the directory structure according to a DFS order while collecting the data; and

writing a table including the ID number and the data.

34. The method of claim 33, wherein the agent is separate from the storage server.
35. The method of claim 34, further comprising using an MMA to control the agent.
36. The method of claim 33, wherein the storage server is a filer.
37. The method of claim 33, wherein the storage server has first file system and the agent has a second file system different from the first file system.
38. The method of claim 36, further comprising generating a GUI using the MMA.